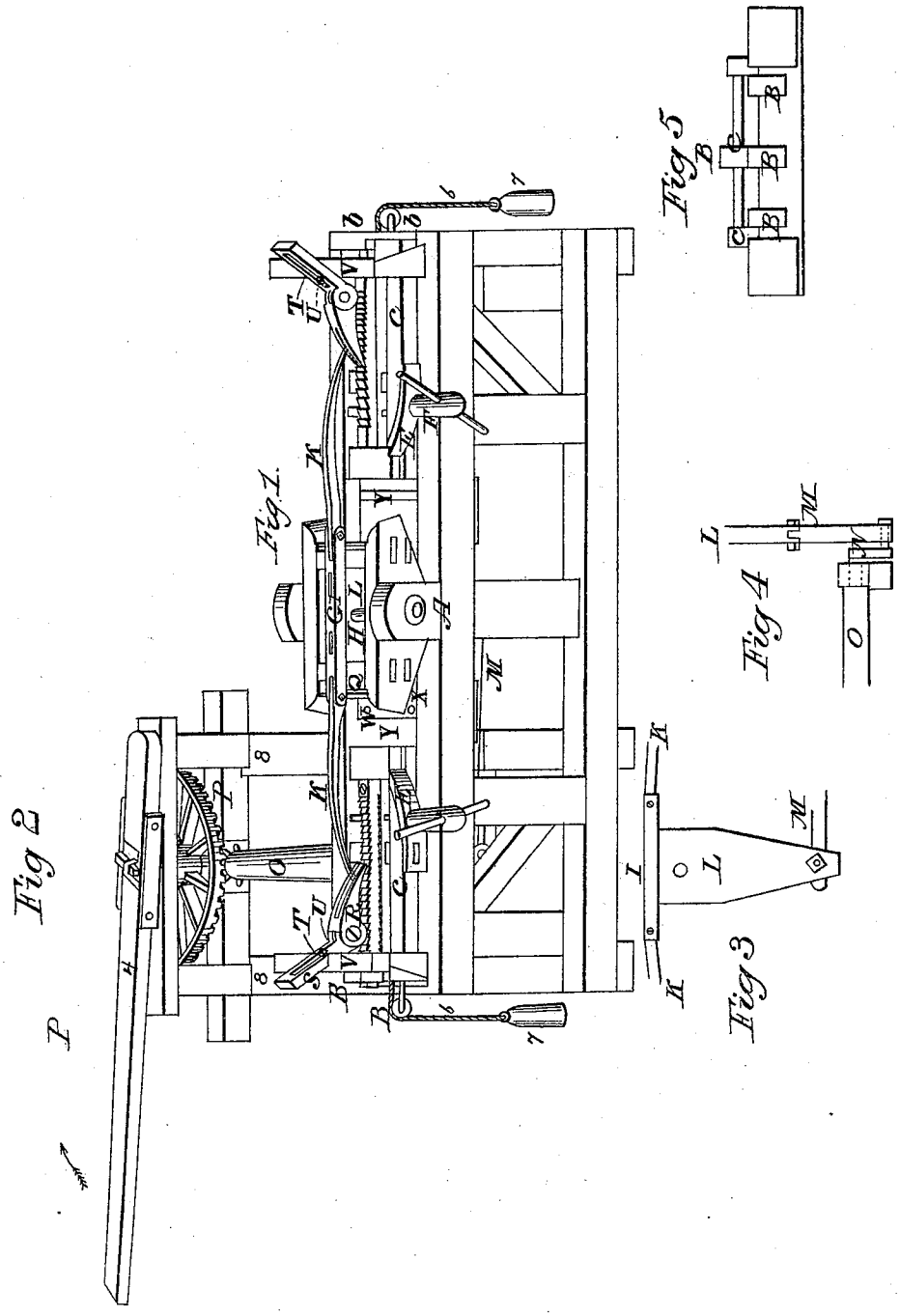
T. Peck,

Making Staves.

No. 465. Patented Nov. 20, 1837.



UNITED STATES PATENT OFFICE.

THOMAS PECK, OF LENOX, NEW YORK.

MACHINE FOR CUTTING STAVES FOR BARRELS, &c.

Specification of Letters Patent No. 465, dated November 20, 1837.

To all whom it may concern:

Be it known that I, THOMAS PECK, of the town of Lenox, in the county of Madison and State of New York, have invented a new and useful Machine for Cutting Staves for Barrels, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

A, Fig. 1, represents the frame of the machine, made of sufficient size and strength to contain and support the several parts hereafter described: It consists of two longitudinal sills united by cross sills;—six posts;—two plates united by cross beams; having suitable braces to strengthen the frame. At each end, between the plates, and resting on the end beams, are placed three parallel ways B B B *b b b*, over which the carriages with the bolts move. See also sectional view 5. The ends of the ways toward the center of the machine are mortised and tenoned into the two center cross beams, Y *y*, Fig. 1.

c c represent the carriages for holding and hinging forward the bolts to the cutters, hereafter described:—Each carriage consists of three parallel timbers, united by two cross pieces. The two outside timbers are rabbeted on the outside, forming tongues, which move in grooves formed by the two outside parallel ways, and the plates. The center timber moves over the center way. On the top of this timber is fastened a rack D. The forward cross piece projects beyond the side of the carriage, on which projecting part is placed a movable jaw E, closed by a large wood screw F, for holding the bolt:—This screw passes through the jaw, side timber of the carriage, center timber, and turns in a female screw in the other side timber. This side timber also forms the other side of the jaws. The screw is turned by a pin passing through the head of it. The rack is notched on both sides,—the size of the notches being according to the thickness of stave required, and may be turned over whenever it is desired to cut a thicker or thinner stave:—Both carriages are made and operated in the same manner: G vibrating frame containing the knives for cutting the staves: This frame consists of two parallel timbers, united by two cross timbers. Through the center passes an axle H, on which it vibrates: this axle moves in boxes in the ends of the two center posts, which project above the top of the frame to receive them. In the center of the frame and parallel with the side timbers is fastened another timber I. To the ends of this timber are attached by joints two reaching arms K K which have hands working in the racks for moving the carriages. From the center of this last mentioned timber I, projects downward a pendulous beam L Fig. 3 to which is attached a connecting rod M, leading from a crank N, on the end of the line shaft O, of the horse power P, hereafter described for vibrating the knife frame:—To the outer sides of the two cross timbers of the vibrating frame are fastened two knives Q *q* (for cutting the staves), by stirrups, *a* by any other suitable means:—R *r* two dogs falling in the notches of the racks for preventing the carriages running back while the knives are cutting:—Each dog is attached by a joint to the ends of a rectangular piece of metal or slide S, with a slot T, in the center thereof and fastened in an inclined position by a screw bolt U, to a cross timber V, resting on the ends of the two short posts formed into the plates of the main frame—near their ends. The bolt U, for fastening the slide, passes through the slot, and obliquely through the cross timber to which it is fastened, and has a broad head on one end and a screw and nut on the other.

The dog B, is made convex on the upper side and concave on the other side. It is notched or cut out near its point.

A groove or channel commences from the lower or concave side of the dog, near the point, and runs upward in an inclined plane and comes out in a feather edge on the convex side about the center of the dog, so that the said channel or groove is nearly in the shape of a wedge. In this channel the curved end or hand of the reaching arm moves when it recedes from the knife to take hold of a new notch of the rack and is made thus to move in order to prevent the reaching arm taking hold of more than one notch at each stroke. The slide and screw are for the purpose of regulating the dog for coarser or finer racks—being raised when a thick stave is to be cut, and lowered when a thin one is required. Both dogs are made alike.

The two center cross beams of the frame upon which the cutting is performed are made stouter than the two end beams, and

immediately under the knives they are faced with metallic plates W *w*. Each plate having a longitudinal groove X in the upper side running parallel with and near the edge thereof, filled with a strip of soft wood upon which the edge of the knife strikes after passing through the bolt. This plate is for preventing the wear of the beams by the constant sliding of the bolt over them. The horse power for operating the machine consists of a vertical shaft 1, upon which there is fastened a crown wheel 2, which works into a bevel pinion 3, on the end of the line shaft for turning the same.

On the upper end of the perpendicular shaft 1 is fastened a lever or sweep 4, to which the animals are attached for propelling the machine. S represents an extension of the frame at right angles to the main frame, to contain and support the horse power.

Fig. 2 represents a perspective view of a metallic plate, with vertical sides to receive the sweep, and a square box in the center which slips over the end of the perpendicular shaft, which is also made square to fit the same; a key being inserted through an opening in the shaft above the sweep and box for securing them together and to the shaft:—5, 6, 7, pulley, cord and weight for running back the carriage. Similar pulley, cord and weight are placed at the other end of the frame for running back the other carriage.

Operations.—The carriages being run back, as represented in the drawings—the bolts (previously steamed) being secured, the dogs adjusted, the hands of the reaching arms brought down to the racks, the horse moves round in the direction of the arrow, the crown wheel turns the pinion on the end of the line shaft, this turns the line shaft, which turns the crank in the other end of it, this moves the connecting rod, attached to the end of the pendulous rod which it vibrates with the vibrating frame and knives, knife descends and passes through the bolt and cuts off a stave, at the same time causing the hand of the reaching arm over this bolt to slide up the inclined plane of the dog on the same side, the other knife simultaneously rises and draws forward the other carriage with its bolt under the other knife. The animal continuing his movement causes this knife to descend and pass through the bolt taking off a stave, at the same time causing the first mentioned knife to rise and draw forward the bolt the thickness of a sctave for a new cut which is performed in the manner before described, the staves falling down in part of the center timbers upon which the cutting is performed. This operation is continued until the two bolts are entirely cut up. The hands and dogs are then raised and the carriages run back by the pulleys, cords and weights to receive new bolts. When it is required to cut thick staves the position of the rack is reversed so as to bring the coarse side uppermost. The dogs are also adjusted to correspond with them by unscrewing the nuts and raising the slide and then screwing up the nut again.

The invention claimed by me the said THOMAS PECK and which I desire to secure by Letters Patent consists—

1. In the combination of the two feeding carriages with the vibrating knife frame, constructed and operating, substantially as above described.

2. The combination of the reaching arms and hands (attached to the vibrating knife frame for drawing forward the carriages) with the vibrating knife frame and feeding carriages, as before described.

3. The above described method of regulating the feed of the carriages by means of the grooved dogs and slides used in combination.

4. The longitudinal channels in the metallic plates filled with strips of wood upon which the cutting is performed as above described.

The horse power for propelling the machine is not claimed.

THOMAS PECK.

Witnesses:
WILLIAM P. ELLIOT,
LUCIEN B. ROBE.